Supplementary Information on Interagency Projects

FY 2001

NOAA/NASA Enhanced Data Set Project

NOAA's Climate and Global Change Program has established a Climate Change Data and Detection Program Element that focuses on the development of reference data sets of particular relevance to those scientists and engineers requiring data and information about weather and climate variability and climate change on times scales from days to centuries. Based on past experience NOAA has found that the highest quality and most useful data sets are usually closely linked to the scientific application of the data. NOAA has a long tradition of enabling scientific analyses and applications from both operational as well as process study data.

NASA's Earth Science Enterprise (ESE) Program requires the development of new data sets from Earth system science research space observing systems. ESE has the objective of understanding how the Earth's environment is changing and how human activities contribute to this change. These data sets take on their greatest value when they are developed with use of both historical and current observations from various observing systems. NASA has a long tradition of developing data sets from research observing systems.

Cooperation between NOAA and NASA includes an inter-agency agreement whereby NASA and NOAA have shared responsibilities for the rehabilitation and re-calibration of, and reprocessing of consistent products from the NOAA operational Polar-orbiting Operational Environmental Satellite (POES) and the Geostationary Operational Environmental Satellite (GOES) data sets. This cooperative NOAA/NASA Pathfinder activity is continuing, and is not part of this announcement of opportunity (AO).

This joint NASA/NOAA AO will take advantage of NASA's mandate and strengths related to research, primarily satellite-based, with NOAA's mandate and strengths related to the production of data sets from operational observing and data systems for maximum benefit to the scientific and engineering communities in solving environmentally related problems. NASA and NOAA are undertaking this program to expand the integration of their measurements, and to stimulate and encourage collaborative analysis and research.

CENTRAL THEME

This joint project has a central theme of Enhanced Data Sets for Analysis and Applications. Proposals should have a central theme of producing new and/or enhanced climate or global change data sets for analysis, applications, assessments, or climate impact studies. Proposers should state how they plan to produce new and/or improved data sets for specific analyses or applications, which they will be expected to test. The proposal must also state how the proposers will make the data sets accessible to the science and environmental communities for use in research, assessments, impact studies,

and applications relevant to climate and global change. Enhanced data sets may be derived from one or more sources of space-based, other remotely-sensed, or in situ observations, with the proviso that all results may be freely distributed in the public domain. Preference will be given to those proposals that use more than one observing system to develop a blended data set.

Proposals will be considered and accepted for all related aspects of climate variability and global change. However, special consideration will be given to proposals that contribute to major national and international assessments such as IPCC, the U.S. National Assessment of Climate Change, Ozone Assessments, etc.

DATA ARCHIVE and ACCESS

Each proposal that is funded is expected to make its data available to the user community. At the end of the project data sets should be offered for distribution and archive to existing National Data Centers or other depositories of climate data. Each data set must be accompanied with clear, comprehensive, and concise documentation so that specialists and non-specialists alike will be able to understand how the data can be used. Adequate funds must be included in the proposal to ensure the smooth distribution of the end-product, of data set development activities including complete documentation of the data set and supporting peer-reviewed articles.

Each proposal should make prior arrangements with a World Data Center, a NOAA Data Center, or a NASA Distributed Active Archive Center (DAAC) for final disposition and distribution of the data set.

TECHNICAL DETAILS

Proposals will be considered for up to three years in duration, but one and two year proposals are encouraged. Funds for each subsequent year of multi-year proposals will be subject to a review of annual progress reports. Funded proposals are not likely to exceed $200K/year.

NOAA/DOE Climate Change Detection and Attribution Project

Proposals are solicited on all aspects of climate change detection and attribution. Detection is the process of demonstrating that an observed change in climate is unusual in a statistical sense, i.e., that the observed change is large relative to estimates of natural climate variability. We broaden this standard definition to include those proposals that not only document changes in climate, but also focus on producing a data set of adequate quality so as to be able to quantitatively identify decadal and longer-term variations and changes. Detection proposals will be considered on all aspects of documenting and assessing climate variations and changes including extreme events. Successful proposals will address data set errors in the context of defining significant changes. It is recognized that statistically significant changes may not be practically significant and vice-versa. In this regard detection proposals should not be constrained to limit their focus on the

identification of statistically significant changes. Practically important variations as they may affect managed biophysical systems, socio-economic systems and ecosystems are quite relevant.

Attribution is the process of establishing cause and effect. Often these Detection and Attribution activities will not be part of the same proposal, e.g., attribution studies often rely on data bases and modeling simulations that have already been produced, but proposals will be entertained that combine both of these activities as well as those that focus solely on detection or attribution.

Attribution proposals will be considered that address part or all of the issues associated with identifying natural climate variability, making the linkage between specific forcings and observed climate change and variations. Critical components of these proposals will often include the use of climate model simulations, statistical techniques, and long-term climate data including paleoclimate data.

TECHNICAL DETAILS

Proposals will be considered for up to three years in duration, but one and two year proposals are encouraged. Funds for each subsequent year of multi-year proposals will be subject to a review of annual progress reports.